

# Salmon Forever

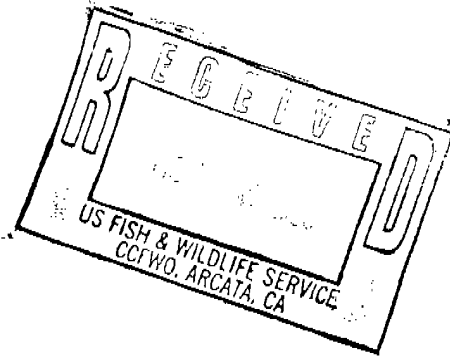
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Bruce Halstead, US Fish & Wildlife Service  
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Arcata, CA 95521

Re: Permit numbers PRT-828950 and 1157

John Munn  
California Department of Forestry  
1416 Ninth Street  
Sacramento, CA 95814

Re: SYP 96-002



**SALMONID DISTRIBUTION AND LAND OWNERSHIP PATTERNS:**  
**EVALUATING THE REGIONAL CUMULATIVE IMPACT**  
**HCP/SYP PACIFIC LUMBER COMPANY**

The HCP/SYP/EIS/EIR fails to adequately consider the cumulative impacts of the plan. In particular, the plan fails to adequately consider or mitigate; 1) sediment impacts related to silviculture, 2) removal of residual trees along watercourses and more than 60% reduction of potential LWD available for recruitment 3) peak flow increases related to reduced canopy and reduced rainfall interception losses 4) chronic turbidity increases 5) herbicide impacts to soil productivity and water resources 6) economic impacts to downstream property and resources 7) the plan fails to evaluate impacts in conjunction with all other reasonably foreseeable HCP/SYP's within the affected area.

Given the salmon's life cycle, the population sizes needed to retain sufficient genetic material to conserve fecundity, the likelihood of impacts from stochastic events; the affected area must be at least the ESU for the coho salmon.

At least eight other industrial timber operations have submitted SYP's or such SYP's are reasonably foreseeable because they are required by state law, and, these in combination with the impacts resulting from THP's and NTMP's on smaller land ownerships under Forest Practice Rules must be considered in combination with the plan when calculating the impacts of these plans on Pacific salmonids. Until and unless cumulative impacts and effects on the salmon fishery, downstream residents and the beneficial uses of water are determined, the level of maximum sustained production of high quality timber products by PL cannot be determined. The National Marine Fisheries Service and the Department of Fish and Game and Industrial Timber Operations have extensive readily available records regarding habitat condition, including recent aerial photos, carcass counts, water temperature regimes, spawning habitat, and population abundance, distribution and viability that is not sufficiently considered. Therefore the plan fails to analyze existing information and cannot evaluate the effects of less damaging alternatives or implement potentially feasible measures needed to conserve salmon. Significant impacts such as water temperature, stream siltation, chronic turbidity and suspended sediment impacts and sedimentation are not analyzed in

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meaningful detail on a sub-basin level. Without this level of detail, sediment quality objectives of the North Coast Basin Plan and reasonable protection of the beneficial uses of water cannot be obtained. It is an abrogation of duty to circumvent existing law.

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It appears from the summary draft EIS/EIR that prior cumulative effects on watersheds excludes temperature impacts, such as in the Yager Creek/Lawrence Creek drainage (Table S-2, page S-14, Draft EIS/EIR Summary for PALCO HCP/SYP, October 1998). No explanation is given for this omission, or for the failure to consider temperature impacts as significant, despite its profound effects on salmonids.

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NEPA section 1502.16 (c) and 1506.2 (d) requires that discussions are included of possible conflicts between the proposed action and objectives of Federal, regional, State and local land use plans, policies and controls for the area concerned. In *City of Carmel-By-The-Sea v Dept. of Transportation*, 123 F3d 1142 (9 Cir. 1997), the case addressed the failure of an EIS to discuss cumulative impacts of several projects in addition to the case in point.

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CEQA Guidelines sec 15355, subd. (a) "The cumulative impacts from several projects is the change in the environment which results from the incremental impact of the project when added to other closely related past, present *and reasonably foreseeable probable future projects.*"

In the case of the coho salmon, it is known that approximately 50% of its habitat within the transboundary ESU is privately owned. A more significant fact is that 100% of coho habitat in the ESU runs through, at some point, privately owned property. If these areas are permitted significantly more lenient regulatory restrictions than publicly owned ones, it is safe to extrapolate from experience that privately owned regions will be at more risk for degradation. This creates a situation for the salmon similar to a gauntlet, in which the salmon must pass through areas that are severely impacted in order to reach the presumably more protected, publicly owned stretches. Such impacts are often lethal to entire runs. It is therefore a specious argument which claims that the salmon will be saved by public lands management. The gauntlet effect exposes this as untenable reasoning.

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Unless the cumulative impacts of similar plans and alternatives are assessed, it is impossible to know the impact of any portion of the affected region. Maxxam, and other industrial timber owners currently filing or planning their own HCP/SYP's, complain that they cannot be expected to save the coho on their own. The analysis advocated here is the only way to calculate the proportionate sacrifices which MUST be made over the landscape by each component landowner. If one landowner gets to destroy more than his/her share, others will be forced, perhaps illegally, to preserve more. If species or habitat are more abundant on one ownership, that ownership must preserve more. It is impossible to allocate resource management of any given part without understanding the whole picture. This HCP/SYP/EIS/EIR does not evaluate the whole picture with respect to the coho salmon, or the other salmonid species at risk!

Four salmonid species or populations are either listed or candidates for listing under the ESA as threatened or endangered: Coho salmon, Steelhead Trout, Coastal Cutthroat trout, Spring and Winter run Chinook. According to Dr. Peter Moyle, renowned fisheries professor at UC Davis, the principal cause of the decline in coastal salmonids is deterioration of the coastal watersheds, and he further specifies that logging and road building in these areas have been major factors in that deterioration (Moyle 1993). Human land and water use have so modified the coastal habitat that the various species are unable to cope with other adverse events, such as El Nino, water diversions, and ocean overharvesting. Fish hatcheries have compounded the problem by genetic swamping, spread of disease, and competition with wild fish for food and mating opportunities.

A report in *Pacific Fishing*, June 1998, pg 33 notes that "The processors are reacting to an overall decrease in demand for wild salmon, due to increased competition from foreign salmon farmers".

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*Stocks in these areas thus face the cumulative impact of habitat degradation and hatchery influences, and the overall influence of both of these effects on ESUs can only be evaluated by assessing them on the scale of the ESU. Past efforts have often been piece-meal, thus preventing the overall cumulative impact on the ESUs from being effectively evaluated or managed.*

Twenty-two waterways on the north coast of California have been listed as impaired by the EPA because of sediment or elevated temperature, and most of these watersheds include logging as the principal land use and major influence on watershed conditions. Many of these are included in recently drafted HCP's and SYP's, and all will be affected by the outcome of the first HCPs designed to include salmonid habitat considerations. Such plans are thus the forum in which issues of regional cumulative impacts must be evaluated. Otherwise, continuation of the piece-meal approach to planning will overlook the potential for interactions between activities on different ownerships.

*Such a regional overview is important because of the necessity of preserving genetic diversity if a species or ESU is to be protected from extinction. Genetic diversity, according to a National Research Council report on Pacific Northwest salmonids (NRC, Upstream, Salmon and Society in the Pacific NW, pg 7-8, 1996), underlies the success of the species. Genetic diversity depends upon the presence of healthy habitat throughout the range of the salmon so that local genetic variations are sustained. Diverse conditions promote diverse, strong, and healthy fish populations. Most, if not all, salmon stocks include privately owned lands in their range or are affected by activities on private property which influence conditions in downstream habitats those stocks rely on. Thus, the need to maintain genetic diversity requires that the potential for interactions of impacts between public and private lands must be evaluated.*

The long-term survival of salmon depends crucially on a diverse and rich store of genetic variation. Because of their homing behavior and the distribution of their populations and their riverine habitats, salmon populations are unusually susceptible to local extinctions and are dependent on diversity in their genetic makeup and population structure. Therefore, management must recognize and protect the genetic diversity within each salmon species, and it must recognize and work with local breeding populations and their habitats. It is not enough to focus only on the abundance of salmon. (from: Upstream, Salmon and Society in the Pacific NW, Comm on Protection and Mgt of Pacific NW Anadromous Salmonids, Nat'l Academy press, 1996, Executive Summary, page 4)

For the evolution and continued existence of species, genetic differences between populations are as important as genetic differences between individuals within a population. (ibid, page 148)

Because of homing, the fundamental unit of replacement or recruitment for anadromous salmon is the local population. (Rich 1939, Local Populations and Migration in Relation to the Conservation of Pacific Salmon in the Western States and Alaska. AAAS Pub 8:45-50; Ricker 1972, The Stock Concept in Pacific Salmon, pp19-160, UBC, Vancouver), That is, an adequate number of individuals for *each* local reproductive population is needed to ensure persistence of the many reproductive units that make up a fished stock of salmon. The homing of salmon to their natal streams produces a branching system of local reproductive populations that are largely demographically and genetically isolated. (ibid., page 149).

One important reason to protect local populations is that they are locally adapted to the streams that support them. In other words, evolution has made a local breeding population better able to survive and reproduce in its home stream than in other streams. Re-establishing new populations through introductions once the local populations have been lost has proved to be extremely difficult. (ibid., pg 150).

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The individual local breeding populations within a drainage basin or other geographical area are usually connected in a higher level of organization by exchange of individuals through "straying."

The unifying theme of the ESU concept is conservation of the evolutionary legacy and potential of the biological species-that is, the genetic variability that is a product of past evolutionary events and that represents the reservoir on which future evolutionary potential depends. The goal is thus to ensure viability of the biological species by conserving enough of its basic components to allow the dynamic processes of evolution to proceed. (ibid., pg 160.).

The local adaptations that produced the diversity of salmon life histories in the Pacific NW took place in a large and undepleted metapopulation structure. Today, parts of the metapopulation structure are missing, other parts are reduced in size, some local breeding populations have been extirpated, and many areas are populated largely or only by hatchery fish. It is therefore likely that even given hundreds or a few thousand years, local adaptation would not occur as quickly as it did in the past. So, although the evolutionary plasticity of salmon gives us hope that rehabilitation is possible, it is not a reason to diminish efforts to conserve diverse wild runs if long-term sustainability of salmon in the Pacific NW is a goal. (ibid., pg 161).

The first HCP to include considerations for coho salmon is that being designed for Pacific Lumber Company lands in northwest California. This HCP will inevitably become a model for future HCPs and SYPs, setting benchmarks which will be used by other private timber, agricultural, and mining concerns. **The SYP must conform to CEQA, which requires consideration of relevant past, present and future projects in evaluating cumulative impacts of the SYP. Thus far, consideration of the myriad projects affecting the viability of this ESU as a whole has not been made a component of this HCP/SYP. It is therefore impossible to assess the effectiveness of proposed protections without projecting the impact of applying similar protections over private ownerships throughout the ESU.**

**The HCP/SYP/EIS must therefore focus on developing the information necessary to evaluate the regional implications of the Pacific Lumber Company HCP/SYP by including in its analysis all other large-scale projects affecting privately owned salmonid habitat within at least the range of the transboundary coho ESU.**

*The results of the proposed work are relevant to a variety of applications beyond those intended for evaluation of salmonid viability. Altered hydrology and woody debris regimes, and accelerated erosion, underlie many of the adverse cumulative watershed impacts in a watershed. Resulting sedimentation of streams causes adverse modifications of the stream channel, with consequent downstream flooding and further erosion. What impacts the fish, in short, also impacts downstream residents. The HCP/SYP/EIS must therefore evaluate cumulative impacts on water supplies, floodplain infrastructure, and other beneficial uses in the region.*

SPECIFIC CRITICISMS AND REQUESTS PERTINENT TO THE CURRENT MAXXAM/PL  
EIS/EIR/HCP/SYP

- SF-6 | • No map of the distribution of affected salmonid populations
- SF-7 • No determination of *which portions* of viable populations depend on private or industrial lands for spawning, rearing, and migration success.
- SF-8 • No evaluation of the extent of habitat fragmentation, particularly the "Gauntlet Effect". This effect occurs where protected healthy habitat is interrupted by significant areas of disrupted habitat, forcing salmon to endure often lethal conditions at certain stages of their freshwater life-cycle despite the presence of viable habitat for other stages. An all-too-common example is where the headwaters of a stream is afforded the protections of publicly owned land, but to get there, or to get downstream to the ocean or estuary, the fish must swim through a gauntlet of sedimented, toxic, exposed, or overly warm waters.
- SF-9 • Lack of identification of available information needed to evaluate whether the protective measures in Federal Forest Plans, in combination with protective measures in HCPs and SYPs, are sufficient to recover the salmon resource and prevent JEOPARDY.

The assessment should, at a minimum include and address the following:

- SF-10 • Maps of salmonid distribution and abundance
- SF-11 • Maps of land ownership: Federal (BLM, USFS, NPS), State, County, Private
- SF-12 • An ability to overlay or combine these maps
- SF-13 • Maps of land use patterns, including residential use
- SF-14 • Maps of forest seral stage distribution
- SF-15 • Maps of areas that would be protected by provisions of the ManTech report or FEMAT (i.e. riparian reserves and key watersheds), or by other public policy
- SF-16 • Comparison of ManTech/FEMAT protections and those provided by HCPs and SYPs currently under development throughout the affected region
- SF-17 • A discussion of the implications of the various use and distribution patterns for conservation strategies for endangered salmonids, including the current HCP/SYP/EIS/EIR and Alternatives.
- SF-18 • Calculations demonstrating that this HCP/SYP, in conjunction with all other actual and potential HCP/SYP's in the Transboundary ESU for the Coho salmon, as well as other ESU's for the Chinook, Steelhead and Coastal Cutthroat, will not result in jeopardy of the continued existence of these species.
- SF-19 • A discussion of the implications of these patterns for the abundance of salmon available for traditional cultural uses.
- SF-20 An overriding problem of credibility permeates this process. Maxxam/Pacific Lumber has a pattern and practice of thwarting Federal and State law, and should therefore not be granted an Incidental Take Permit under the HCP Handbook guidelines. Alternative 1 is therefore the preferred alternative. (Alternatives 3&4 are preferable to alternatives 2 and 2a).
- SF-21 The expedited timelines for evaluation and analysis of these HCP/SYP documents makes any assessment superficial. Such extensive, long-term planning covering multiple species with "no surprises" over 50-100 years should be subjected to the most careful scrutiny, and not expedited by prior political arrangements which supercede and preclude peer reviewed scientific appraisal.
- SF-22 Maps include data from USFWS and CDF&G combining ownership and fish distribution of the four salmonid species listed above. These data are inadequate to analyse the cumulative impacts of this HCP/SYP throughout the range of these species.